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ABSTRACT

The current crisis in education, coupled with the changing work force and changing business needs in the 1990s, poses a challenge for vocational education. Competency-based vocational education needs to evaluate its competencies to see if training graduates to meet them will serve the needs of the new work situation and keep the United States competitive. In particular, vocational education must prepare students for interpersonal business relationships--the single most predictive indicator of job success. Some of the changes that the 1990s will introduce into the workplace are the following: (1) development and acceptance of expert systems; (2) development of alternate delivery systems for a diverse work force; (3) creation of super teams to replace super stars; (4) adaptation to individual needs; and (5) use of the international language of business. The emphasis for the 1990s will be on designing integrated learning systems that are people, not data based. Vocational education programs can be renewed by choosing to adopt a new outlook, choosing an alternate path, seeking creative options, fostering innovation, and accepting change as the path to discovery and growth. (KC)

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COMPETENCY-BASED VOCATIONAL EDUCATION

WHAT IT MEANS TO INDUSTRY IN THE 1990'S

BY

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A NATIONAL MEETING

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COMPETENCY-BASED VOCATIONAL EDUCATION:

WHAT IT MEANS TO INDUSTRY IN THE 1990'S

Introduction

We've all heard the facts from the popular media and the professional experts. Even Barbara Walter hosted "Learning in America" specials that confirm that the following problems are evident:

--alarming dropout rates (30 percent average-50 percent among Hispanics)

--increasing illiteracy among graduates (25 million functionally illiterate American adults)

--teacher burnout and frustration (especially among math and science teachers)

Educational Crisis

The crisis in education is growing, but what can we do? Let's look at the crisis as supported by the following four critical facts.

Fact: The Workforce 2000 Report by the Department of Labor has predicted widespread labor shortages for the 1990s.
Fact: For the past several decades, the US has experienced a gradual decline in productivity growth.
Fact: The knowledge and skill base of our workforce must be replenished each generation.
Fact: The competitive edge in American business and industry will be human resources not technological ones.

What do these facts mean to us as educators, trainers, and curriculum developers? Your present competency-based education process will still ensure entry-level workers meet employer hiring expectations by confirming that students have demonstrated basic occupational competencies. And, business and industry will still hire our graduates and train them in job specific skills that will bring them to maximimum productivity. Right? If so, how do we hone that competitive edge if we don't modify our competency-based education process? Ask yourself this question "How can our curriculum development process save a company money by limiting the amount of training on job-specific skills, avoiding a work-related accident, reducing rejection rate or reworks, or improving the absentee rate?" Basically, it is a question of fine-tuning our present competency-based education process. A look into the 90's will challenge us to think of new ways to deliver our programs more efficiently and effectively to a more diverse student population performing within a rapidly changing business culture.

Business Crisis

Analysts project slower economic growth, the emergence of completely new industries, and increased automation of existing industries due to the rapid technological, equipment, and processes innovations. Changes in national immigration and retirement policies, the role of the changing family, and declining student literacy rates add up to some complex issues. Some of the major areas of concern follow:

--labor shortages (fewer high skilled workers available; yet a higher demand; higher unemployment for low skilled workers due to lower demand)

--productivity decline (emergence of new service industries; decline in production of goods; increased automation)

--workforce replenishment each generation (fewer workers available for the information age due to lack of baby boomers; industry is turning to special needs populations such as immigrants, minorities, aged, and disadvantaged)

--competitive edge in productivity will come from human not technological resources (attitudes will be the key to job satisfaction for they influence behavior which influences results)

How can the US educate and retrain quickly and cost effectively to ensure that we keep pace with these rapid changes?

As you know, the bottomline for business depends on production. Production of goods and services. How does your curriculum save or earn dollars for your business community? **How successful have you been in preparing students for interpersonal business relationships--the single most predictive indicator of job success?** How does our curriculum process contribute to the economy's bottom line? If your program is not part of the solution, then your program is part of the problem. Have we missed our opportunity to improve productivity in the US? How many of you are confident that your programs are meeting the needs of business and industry? Are we on a parallel track?

A Brief Historical Perspective

In 1975, Elliott Richardson, the Secretary of Health, Education, and Welfare issued Work in America, a report that stated that vocational education in the high schools has failed to give students useful skills or placed them in satisfying jobs. In the 80's the report, a Nation in Crisis, confirmed this sentiment. So, vocational educators responded. Currently, our competency based vocational education system defines the competencies entry-level workers need to perform satisfactorily on the job. Employers measure the effectiveness of this educational system daily as they hire, train, and promote our graduates within their companies. How well are our programs meeting the needs of business and industry?

Business has been adapting also. The social changes of the sixties and the technological advancements of the seventies have created a nontraditional, market-driven organizational environment for the eighties. Employees are no longer driven by the work ethic, rather they are motivated by the self-worth ethic. Authority and accountability belongs to the group not the individual. Managers are concentrating on the subjective indicators of the organization as much as they are the objective elements. The starship of the 1980's was the excellence challenge. Peters and Waterman defined it in their book, In Search of Excellence, Iacocca implemented it at Chrysler Motor Company, and Blanchard managed it in just one minute. Is this what we can expect in the 90s?

Sit back for a moment, and envision the workplace of the 90's. Here are some the the changes the 90's will introduce into our workplace:

--develop and accept expert systems

--develop alternate delivery systems for a diverse workforce

--build super teams to replace super stars

--adapt to individual needs

--speak the international language of business

Challenge #1 - Develop and Accept Expert Systems

Expert systems are computer programs that emulate the way human experts solve problems. We are entering the fourth generation of computer software systems. Authoring capabilities have been expanded and simplified so that any curriculum developer can develop a program, associated menus, and pointing features. With this development, education is shifting its focus toward learning not teaching.

The development of computer-assisted human performance and evaluation systems will spur the development of integrated expert systems involving interactive computer-assisted instruction, self monitoring feedback, and biotechnology.

The vocational education system is training specialists, but many companies will be demanding generalists who can read, write, compute, and speak. Business feels that these skills transcend technical skills and work well in team assignments. Additionally, skills are changing so dramatically that many companies are hiring temporaries to perform tasks that are emerging because they cannot develop the programs to train their workers before the technology evolves another generation. Many states have responded by legislating the incorporation of basic literacy and employability skills into the vocational education curriculum for all programs. Given this mandate, we realize that we must limit the amount of the vocational skills in our program to accommodate

the applied academics and employability skills. Has business become so complex that it is time to suggest that secondary vocational education provide the general, vocational skills such as reading blueprints, interpreting electrical codes, and computing data on business software packages? Has the time arrived for post-secondary education to articulate their programs with business and industry as well as secondary education? Is specialization within post-secondary vocational institutions the best option for aligning with business and industry needs?

Challenge #2-Develop Alternate Delivery Systems for a Diverse Workforce

The changing demographics of a multicultural workforce indicate increasing numbers of low income, disadvantaged, and displaced workers. Three groups deserve special emphasis. They include the following:

--older Americans

--working women

--at risk teenagers

The workforce is maturing in the 1990's. The graying of America will require quality learning products and services to take advantage of the greater sophistication level, job expertise, and higher learner expectations of older workers as they enter or re-enter the workplace. Experiential learning programs that focus on self-assessments, problem solving, and feedback will be most appropriate for this segment.

Women workers have unique training needs also. They require skills for assertiveness, team building, and communications to achieve their success. As woman need to grow within organizations, their management training needs are different than their male counterparts. They will seek evening and weekend programs designed for intensive skills available in alternative settings such as offices, malls, or shelters. Sexual harassment will be viewed as an economic problem that leads to a loss of resources due to resignation, underutilization, and litigation.

At risk populations are also increasing. This population needs easy to use, learner focused educational systems such as self-paced interactive videos, computer-assisted instruction, and educational television. Interim success points must be reinforced to maintain the learner's interest and motivation. Traditional instructional methods and media will not address the needs of this group. Successful programs will focus on career exploration, job seeking, and job retention objectives. Creative programming competitive with Pee-Wee Herman's Playhouse may be required.

Challenge #3 - Build Super Teams to Replace Super Stars

Organizationally, business and industry is moving toward centralized work teams to replace individual contributors and star performers. Work teams will require a greater understanding of worker's thinking, social, and management styles. Workers will need to demonstrate flexibility by using versatile interactive styles that accomodate worker characteristics and preferences.

Work teams must develop flexibility to become responsive to the changing marketplace and shifting needs of consumers. Additionally, flexibility within the organization will accommodate mobility of personnel and entrepreneurial managers.

Additionally, industry will experience environmental legislation and controls. Oil spills, nuclear accidents, and chemical disasters will only increase government regulations and standards.

As social issues become more complex due to the growth in blended families, incidents of child abuse, abortion, suicide, and drug addiction cases appear to increase; government intervention will increase and strain the tax burden. Education will be competing for the same dollars that social services will be targeting. This struggle to defend existing programs and expand into new programs will create a competitive environment among school systems. Creative, cooperative partnerships will be needed to ensure the survival of the most effective programs. The trend toward performance based finanacing of schools will continue forcing schools to deliver observable outcomes such as placements not credits.

Additionally, work teams will provide internal consulting for organizational improvement. Quality control will become an integral part of the on-site team's function, not a separate, corporate function.

Challenge #4 - Adapt to Individual Needs

Educators must adapt their instructional programs to meet the needs of individuals. This implies that a role transfer from provider of information to facilitator of learning is necessary. Some resistance is natural to change. However, we must not resist the teacher vs. learner trend. Our role will become more important as we shift. Why shouldn't we resist? Because the learning process is really a change process, the 90's needs us to link with business and industry in a strong, supportive role.

Social considerations of workers involving such issues as on-site daycare, extended maternity/paternity leaves, and partial disability work options will be viewed as part of the quality of work life. Holistic employees will be considered as individuals with family and work responsiblities. Workers will not be viewed as just the muscles of the organization, but rather the brain as well. A healthy balance between work and family, mental and physical, and emotional and logical forces will be required in the 90's.

Challenge #5 - Speak the International Language of Business

Internationally speaking, the world is shrinking. As trade agreements become friendlier, international co-ventures increase, and business improves outside of the US boundaries. Fortunately, English is the international language, so we can communicate easily with our international partners. Advanced communication technology will permit international networking. Unfortunately, terrorism against the US and its allies will increase as the economic trade deficit improves.

The implications for post-secondary education are many. Knowledge of cross-cultural differences, current affairs, and political policies are survival skills needed for students performing in international communities.

Conclusion

How can we choose to renew our programs?

--Adopt a new outlook

--Choose an alternate path

--Seek creative options

--Foster innovation

--Accept change as the path to discovery and growth

What will be our starship for the 90s? Renewal. Waterman describes the challenges of renewal in his new book, The Renewal Factor.

The good news is that the future is the present and the real challenge that awaits us is to effectively and efficiently implement what we know works--competency based vocational education. Our emphasis for the 90s will be to design integrated learning systems that are people, not data based. We must be flexible, agile, and responsive to the needs of our students Instructional systems that will promote that competitive edge with renewed vigor and growth is needed for business and industry in the future.

Remember, what you have today is a result of choices you made yesterday. What you will have tommorrow will be a result of decisions you make today.

Heraclitus was correct in 500 BC when he stated, "Nothing endures but change".